IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of:
Craig D. ULLMAN et al.

Application No.: 09/409,305 Art Unit: 2141

Filed: September 29, 1999 Examiner: Stephan F. Willett

For: ENHANCED VIDEO PROGRAMMING SYSTEM AND METHOD UTILIZING USER-PROFILE INFORMATION

APPELLANT'S REPLY BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Washington, D.C. 22313-1450

Sir:

Kindly consider this Reply Brief in response to the Examiner's Answer dated May 31, 2005.

ARGUMENT

A. The rejection of claims 149-150, 158-161, 164-166, 169-170 and 175-176 under 35 USC 103(a) should be reversed.

Claims 149-150, 158-161, 164-166, 169-170 and 175-176 stand rejected under 35 USC 103(a) over Becker in view of Kramer. Appellant submits that none of the references, alone or in combination, disclose all the limitations of independent claims 149, 158, 164, 170, and 175. Furthermore, Appellant respectfully submits that the Examiner has misunderstood and misapplied both Becker and Kramer and incorrectly quoted Becker.

1. The cited references do not disclose "inheriting user profile attributes into the user profile from a group of which the user is a member" as the phrase is properly construed based on its plain meaning.

Exemplary claim 149 recites "inheriting user profile attributes into the user profile from a group of which the user is a member." Appellant submits that the Examiner has not examined the claims based on their plain meaning.

In the Examiner's Answer at p. 5-6, the Examiner maintained that Becker at col. 9, lines 59-60, shows the modification of a profile "based on current usage or inheritance" and that it shows "inheritance of user profile attributes into the user profile from a group in which the user is a member as 'values may be weighted by various categories...the system can create and update a separate probability table for each category [group] to be used', col. 10, lines 47-64."

The Examiner at p. 12-13 further stated that:

> [A]pplicant argues "this portion of Becker discloses merely that a value in the table can be set for a plurality of subscribers"...Correct, thus the "value" of the group is inherited by the user or in the user's profile."

The Examiner thus suggested that the feature of "inheriting user profile attributes into the user profile from a group of which the user is a member" is taught by the mere setting of values in a table for a plurality of users. While the Examiner has not provided a construction

of "inheriting [an attribute]...from a group of which the user is a member," it is clear that the construction of this phrase applied by the Examiner is inconsistent with its plain meaning.

The specification at p. 32 describes that "[t]he server assigns the user to a team based upon the user's donut and saves an indication of the assignment in the user's donut (step 236). A team specifies a chat room for this user for a chat service." In this example, the team defines a chat room attribute and that chat room attribute can be inherited by a user. The claim language recites a group with an attribute, a user that is a member of that group, and that an attribute of the group is inherited by a member user. Appellant respectfully submits that the Examiner has failed to give meaning to this language in the claims.

In the Examiner's Answer at p. 5-6, the Examiner maintained that Becker at col. 9, lines 59-60, shows the modification of a profile "based on current usage or inheritance." The cited portion of Becker discloses a multi-level prediction table wherein "one or more previously selected pages 540 as well as the currently selected page 550 is used to predict the likely next-to-be-selected page 560." Appellant recognizes that this portion of Becker shows the use of a prediction table. However, even if the prediction table were a user profile (and Appellant asserts that it is not) the cited portion of the reference does not teach inheriting user profile attributes into the user profile from a group of which the user is a member. The cited portion of Becker only discloses modification of a profile based on previously selected pages. Contrary to the claim by the Examiner, there is no mention of inheritance at all. Furthermore, there is no disclosure of a group with an attribute, a user that is a member of that group, or that an attribute of the group is inherited or in any way attributed to a member user. A reference that only discloses applying an attribute to a plurality of users does not teach these claimed features.

The Examiner stated at pgs. 5-6 of the Answer that Becker at col. 10, lines 47-64, teaches the inheritance of user profile attributes from a group in which the user is a member. This cited portion of Becker discloses that values in the prediction table may be weighted by various categories including statistics about users. Specifically, Becker at col. 10, lines 56-60, discloses that "[v]alues 520 can be set to zero to discourage viewers of a household (or

entire subscriber base for the Internet Services Provider) from viewing pornography or other material. For example, in step 290 a page would have zero probability and therefore never be predictively cached." Appellant asserts that this portion of Becker also fails to disclose the inheriting user profile attributes into the user profile from a group of which the user is a member. The setting of a probability value to zero for viewers of a household, or even an entire subscriber base, does not teach inheriting user profile attributes into a user profile from a group of which the user is a member. As discussed above, the simple application of an attribute to a plurality of users does not teach inheritance of an attribute from a group of which a user is a member.

Appellant submits that the cited portion of Becker at col. 10, lines 47-64, discloses merely that a value in the table can be set for a plurality of subscribers. The table of Becker is shown in Fig. 5A. The table is simply a two dimensional data table representing the probabilities of transitioning from one web page to another. At col. 9, lines 61-64, Becker describes the multi-level table as one in which "each column again represents a particular page that may be selected, while each row represents a particular ordered combination of previously-selected pages." Appellant asserts that while the table of Becker receives data, there is no disclosure of inheriting either data or user profile attributes into the table from a group of which a user is a member.

The Examiner has maintained at p. 11 of the Answer that Becker teaches that "values may be weighted by various categories...the system can create and update a separate probability table for each category [group] to be used." Appellant submits that the disclosure in Becker at col. 10, lines 47-64, of a "category to be used" does not teach a group from which attributes are inherited, as suggested by the Examiner. The Examiner has inserted the bracketed term "group," a term that does not appear in Becker. Becker at col. 10, lines 47-55, teaches that probability values can be "weighted by various categories, statistics and parameters." As examples, Becker provides time, age of user browsing the web, statistics about users and income level. These characteristics are nothing more than a collection of parameters that can be used to describe a user. These attributes do not teach a group of which

the user is a member. It is not even logically possible for a user to be member of the "category" of Becker because a user cannot be a member of a time or statistic.

The Examiner further stated at p. 11-12 of the Answer that Becker discloses inheritance at col. 10, lines 47-64, because it discloses that "'an entire subscriber database' [group] inherits the attribute to be able to view or not view pornography." (Emphasis added.) Appellant submits that the Examiner has substantively misquoted and misapplied the reference. Becker does not disclose applying attributes to a subscriber "database;" Becker merely discloses setting values in a prediction table so that an "entire subscriber base" can be prevented from viewing certain material. (Emphasis added.) Contrary to the claim by the Examiner, Becker does not teach the use of a "database."

Appellant submits that a "subscriber base," as used in Becker, is simply an abstract set of subscribers while a "subscriber database" (a term that does not appear in Becker) is commonly understood to be a structured set of persistent data associated with subscribers and usually stored in electronic media. Thus, there are significant and material differences between a "subscriber base" and a "subscriber database" and therefore the disclosure of one does not disclose, teach, or otherwise suggest the other. A group of subscribers, *i.e.* people, (as taught in Becker) cannot inherit or otherwise store profile attributes as those terms are used in this application. Even if Becker disclosed a "subscriber database" or a group, Appellant submits that that the Examiner has not identified any portion of Becker that discloses inheriting attributes into a profile from a subscriber database of which the user is a member. There is simply no disclosure in Becker that users can be organized as a group wherein that group has an attribute and that attribute is inherited by a user who is a member of that group.

In the Examiner's Answer at p. 14, the Examiner stated that "attributes inherited are inherent in the group that the user is a member, and not at face value but even a probability of the attribute's value is computed based on other user attributes." Appellant submits that the Examiner has not provided any support for the statement that inheritance in inherent in any group-member relationship.

Appellant therefore respectfully submits that there is no disclosure in Becker of a group having attributes, a user that is a member of that group, or that the attribute of the group be inherited or in any way attributed to a member of the group.

2. The cited references do not disclose "a hierarchical attribute-value pair data structure."

The Examiner has maintained that Becker and Kramer teach storing the user profile information in a hierarchical attribute-value pair data structure. Appellant respectfully submits that neither reference teaches this claimed feature. An example of a hierarchical attribute-value pair data structure is given in the specification at p. 38. In that example, user "Lukas Doright" has an sub-donut "espn" which further includes a "sports" attribute (or "crumb"). The "sports" crumb is assigned a value "baseball." Thus, information is stored in pairs (attribute: sports; value: baseball). In this manner, user profile information can be stored in a hierarchical attribute-value pair data structure.

i. Becker does not disclose attribute-value pairs or a hierarchical data structure.

The Examiner stated at p. 6 of the Answer that "Becker teaches a hierarchical attribute value pair type data structure that can be called a donut which is simply defined as a data structure, col. 9, lines 1-10." While Appellant recognizes that Becker discloses a simple table for storing values, Appellant asserts that the data stored in the tables of Becker is neither in a "value pair" data structure nor hierarchical. Becker at col. 9, line 1, refers to Fig. 5A. Fig. 5A is a simple table that shows the probabilities that a user will transition from a certain first page to a certain second page. While Appellant recognizes that Fig. 5A illustrates a data structure, Appellant submits that the disclosed table does not store data in an attribute-value pairs and is not arranged in a hierarchical structure.

Becker is directed to the estimation of web pages most likely to be requested by a requesting computer. To that end, Becker tracks patterns of requests for pages. This information is kept in the form of a table that is used to identify and/or predict those pages

that are often requested following each requested page or sequence of pages. Thus, the teachings of Becker are not even relevant to the present application.

Despite the Examiner's assertion at p. 6 that Becker teaches a hierarchical attribute value pair type data structure, the Examiner also stated at p. 6 that "Becker teaches the invention...except for explicitly teaching a hierarchical attribute value pair data structure." Appellant notes the inconsistency in the Examiner's position and requests further clarification as to whether or not it is the Examiner is maintaining that Becker teaches a hierarchical attribute value pair type data structure.

ii. Kramer does not disclose attribute-value pairs.

The Examiner stated in the Answer at p. 6 that Kramer also teaches that "the consumer profile includes hierarchical attribute vectors which encode attributes of a consumer at progressively higher levels of abstraction." While Appellant recognizes that Kramer teaches a set of hierarchical attribute vectors, Appellant submits that Kramer does not teach a value-pair data structure.

The attribute vector of Kramer is shown in Fig. 9. Fig. 9 shows that the hierarchical attribute vector is simply a one-dimensional array. Fig. 9 is consistent with the specification of Kramer at col. 22, lines 17-22, where the hierarchical attribute vector is further described in that "a base level vector 902 shows the vector quantity x comprising a number of base level attributes, having scalar values x_1, x_2, x_3, up to x_n. Each scalar value can represent a different consumer attribute." Thus, Kramer discloses a simple vector array of values. While Kramer discloses a hierarchical relationship among vectors, there is no disclosure of a value-pair data structure.

In the Examiner's answer at p. 15, the Examiner stated that "Kramer is not limited to a vector as suggested since the 'scalars a1, a2...a(n)', col. 22, line 29 in Kramer really make up an array, a more inclusive and complicated data structure, not just a vector." Appellant notes that the Examiner's has provided no support for the statement that Kramer teaches a "a more inclusive and complicated data structure." Appellant further submits that the one-dimensional array of Kramer is equivalent to a vector and that, even if Kramer did teach a

more "complicated" data structure, the Examiner's bare assertion that Kramer teaches a more "complicated" data structure does not satisfy the requirements of a *prima facie* case of obviosuness.

Thus, Appellant respectfully submits that Kramer does not teach a value-pair data structure.

3. The Examiner has failed to provide an adequate motivation to combine Becker with Kramer.

As discussed above, none of the cited references disclose "inheriting user profile attributes into the user profile from a group of which the user is a member." The cited references also fail to disclose "a hierarchical attribute-value pair data structure." There can be no motivation to combine two references where neither reference discloses the claimed features. One would not be motivated to look to Kramer to solve the problem of "a hierarchical attribute-value pair data structure" because Kramer does not disclose such a structure.

In the Examiner's Answer at p. 6, the Examiner acknowledged that Becker does not disclose a hierarchical attribute value pair data structure. Therefore, the Examiner resorted to Kramer to complete any case of obviousness. However, there is no evidence in either Becker or Kramer of a motivation for persons of ordinary skill in the art to have used the hierarchical data structure disclosed in Kramer with the predictive page retrieval system of Becker to produce the claimed systems and methods of utilizing user-profile information. This obviousness rejection fails because the Examiner has presented no evidence to support an essential element of the prima facie case of obviousness, that persons of ordinary skill in the art would have been motivated to combine the hierarchical data structure disclosed in Kramer with the predictive page retrieval system of Becker to produce the inventions as claimed in the rejected claims.

The Examiner concludes at p. 7 of the Examiner's Answer that "it would have been obvious to one of ordinary skill in the art to incorporate said data structures as taught in Kramer into network system described in Becker because Becker operates with finding data

in a computer network related to a user and Kramer suggests that better matching techniques can be obtained in networks." No other supporting arguments or rationales were given for the motivation to combine.

Nowhere in the preceding statements does the Examiner actually identify anything in the cited references that evidences any knowledge or suggestion to combine the teachings of either reference. This argument begs the question of why persons of ordinary skill in Beckers's art, the art of predicting the page most likely to be requested by a user based on user data, would have been motivated by a disclosure in Kramer's art, the art of storing consumer attributes in a hierarchical model, to use Kramers's hierarchical model to store user data.

As a preliminary matter, Appellant submits that Becker is not directed to "finding data," as the Examiner has suggested. Becker is clearly directed to predicting the data most likely to be requested by a user and retrieving it in advance. Becker teaches that the predictions can be based on various stored parameters that describe the user. Thus, there is no "finding" of data, only the prediction of a future web page selection. Appellant further submits that Kramer is not directed to "better matching techniques," as suggested by the Examiner. Kramer is directed to storing consumer attributes in a hierarchical model. Ultimately, these consumer attributes can be used to select content for delivery that most closely matches the consumer attributes.

The sole basis provided by the Examiner for combining these two references appears to be that "Becker operates with finding data in a computer network" and Kramer "suggests that better matching techniques can be obtained in networks." The fact that both references disclose operation in a network is such a general motivation that it does not respond to the evidentiary burden which the Examiner must satisfy to make out a *prima facie* case. Such a motivation is so broad that it does not answer the central question of why, out of all the references disclosing the use of techniques for storing data, would a person of ordinary skill in the art have chosen Kramer as the disclosure to look to. The answer is apparent: Without Appellant's disclosure and claims as a roadmap, *no* person of ordinary skill in this art would

have chosen Kramer's data structures for use in Becker's page prediction system. This is classic, impermissible hindsight.

The Examiner's selected motivation is so general in the context of the relevant art as to constitute no more than the reference to a general level of skill in the art found deficient in *In re Lee* (277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002)). As emphasized by the court in *In re Lee*, the Examiner must present specific evidence of motivation, not the generalized evidence relied on in the Examiner's Answer:

> When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors).

The burden imposed by *Lee* is not an impossible burden, as explained by the court in *In re Thrift*, 298 F.3d 1357, 1364-65, 63 USPQ2d 2002 (Fed. Cir. 2002), with respect to the references relied on by the Board in that case:

> In the present case, the reasoning articulated by the Board is exactly the type of reasoning required by In re Lee. Both the examiner and the Board clearly identified a motivation to combine the references, stating that the skilled artisan would have "found it obvious to incorporate the speech input and speech recognition techniques taught by Schmandt into the expert system of Stefanopoulos in order to reduce the need for less user friendly manual keyboard and mouse click inputs." Decision on Appeal at 5; accord Aug. 7, 1996 Office Action at 3. The motivation to combine the references is present in the text of each reference. The Schmandt reference itself verifies this motivation, stating that "allowing users to remain focused on the screen and keyboard, instead of fumbling for the mouse, would be beneficial in a workstation environment." Schmandt at 51. Stefanopoulos itself, while not expressly disclosing the use of speech recognition, sets forth the motivation to combine the references, stating that "there are alternative means to select the buttons, including . . . voice-activated transfer means, which may be readily adapted for use with the present invention by those skilled in the art." *'237* patent, col. 4, ll. 34-38.

The reliance in the Examiner's Answer on the arguments, even if true, that Becker and Kramer operate in networks, that Becker finds data in a computer network related to a user, and that Kramer suggests better matching techniques comes nowhere close to the analysis and supporting evidence required by *Lee* and approved in *Thrift*. The Examiner has

pointed to no disclosure in either Becker or Kramer that is evidence of any motivation to look from one reference to the other to solve any problem involved in either.

Based on *Lee* and *Thrift*, the appropriate question to ask again at this point in the analysis is: why, based on Becker, would a person of ordinary skill in the art have had *any* reason to look at Kramer and to use Kramer's disclosure in conjunction with Becker to arrive at the claimed invention? There is only the same, reasonable answer: impermissible hindsight reliance on Appellant's disclosure and claims as a roadmap to choose Kramer.

Appellant recognizes that an Examiner cannot search prior art to use in examining a patent application without reading the application and its claims first. That much "hindsight" is permissible and expected in the examination process. However, that is as far as hindsight in the examination process can go. Once the Examiner finds prior art that appears to be relevant based on the limited amount of hindsight that is permissible, *Lee* and *Thrift* require the Examiner to point to evidence within the prior art references themselves as to why persons of ordinary skill in the art would have been motivated to combine the disclosures so as to arrive at the claimed invention.

Appellant's position rests on the Examiner's failure to produce and rely on objective evidence of motivation in the prior art itself. Thus, even if the references taken together did show all the claimed features of this application, which they do not, there is no motivation to combine the two references.

Accordingly, the final rejection of claims 149-150, 158-161, 164-166, 169-170 and 175-176 should be reversed.

B. The rejection of claims 151-157, 162, 163, 167, 168, 171-174 and 177-183 under 35 USC 103(a) should be reversed.

In the Examiner's Answer at p. 9, the Examiner maintained that Savitsky teaches rules that read on a hierarchical attribute-value pair data structure. In support of this rejection, the Examiner referred to col. 11, lines 32-34, of Savitsky as showing an agent that modifies a page according to filtering rules before documents are returned to a client. The portion of Savitsky cited by the Examiner is the only portion of Savitsky that refers to a

filtering rule. Appellant respectfully submits that the passing reference in Savitsky to a filtering rule does not teach a hierarchical attribute-value pair data structure because it does not teach either a value-pair data structure or a hierarchical relationship. Accordingly, the final rejection of claims 151-157, 162, 163, 167, 168, 171-174 and 177-183 should be reversed.

CONCLUSION

For the foregoing reasons, and for the reasons set forth in Appellants' Opening Brief, the final rejection of claims 149-183 under 35 USC 103(a) should be reversed.

In the event that the transmittal letter is separated from this document and the Patent and Trademark Office determines that an extension and/or other relief is required, Appellant petitions for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 559442000600.

Dated: August 1, 2005

Respectfully submitted,

By _____

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